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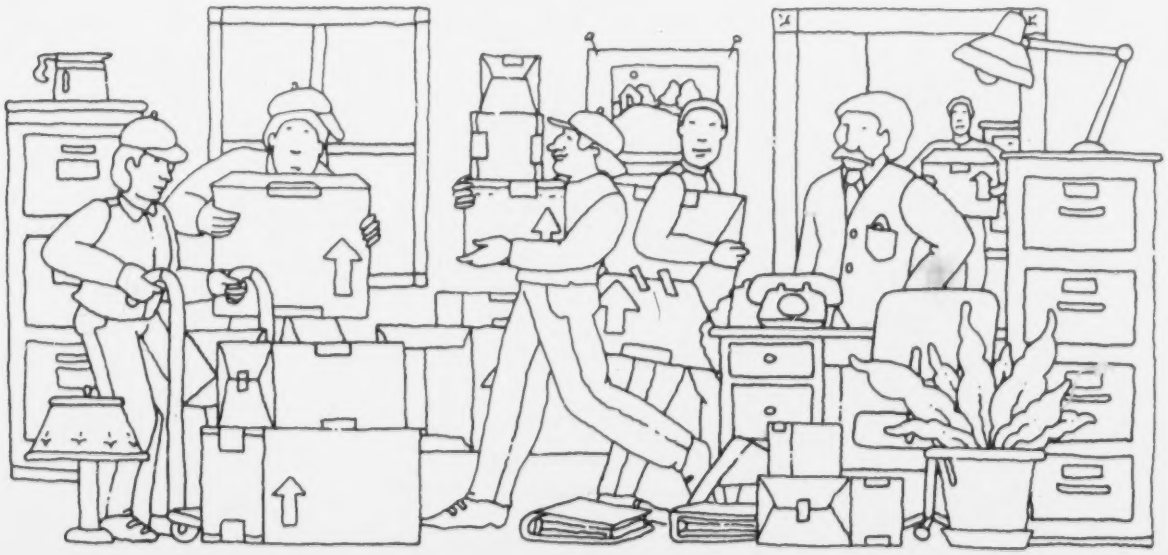

Urban/Rural Migration Patterns in Indiana

In this issue . . .

The people of Indiana are our ultimate concern. For 60 years this *Review* has reported their numbers, living conditions, housing, and employment. This issue continues that long tradition, with all of the articles devoted to changes in the state's population.

Jerome McKibben, a native Hoosier now working in neighboring Ohio, examines the changes in the migration patterns of urban and rural Indiana counties. This is not an article on "Are we keeping them down on the farm?"—the rural population of Indiana does not necessarily live on farms. The complex interactions between our rural and urban counties are increasing and changing. McKibben shows that, even in a short time, migration patterns have altered.

Each year when we fill out our tax returns, we do more than support our government programs. We also create a wonderful source of data that can help us understand changes in our times. Mark Smith and Bob Lain have analyzed IRS data for 1984-85 to discover the origins and destinations of Hoosiers engaged in interstate migration. They help us understand where we are coming from and where we are going.

The latest population estimates released by the U.S. Bureau of the Census allow us to reexamine the 1983 projections of Indiana's population. Projections are never "right" because events intervene and create a future different from any that might be imagined. How far the projections differ from the realized state of affairs is a measure of how much our times truly differ from the past. Those who craft the projections need not feel guilt because the earth has moved out from under them. Clearly, no expressions of guilt are found in the summary analysis by Michael Gann and

M.J.M.

Jerome N. McKibben II

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The urban/rural migration pattern has been one of the most consistently observed migration flows. The U.S. has long been noted for having out-migration in rural areas and in-migration for urban areas.[1] As more of the land in rural areas was put into production and as agriculture became less labor intensive, the surplus people tended to move to the nearest urban areas in search of employment.[2] Thus, many migrants resettled in suitable urban areas within their own states. The Midwest region of the U.S., particularly the Great Lakes region, has been an excellent example of this urban resettlement.[3]

Over the last fifteen to twenty years, the patterns, directions, and flow in urban-rural migration have undergone substantial change, particularly in the Midwest. This change indicates a need to update standard urban/rural migration theory.[4]

The first change was the turnaround of the 1970s. A shift from net out-migration to net in-migration in the rural areas created a faster growth rate in nonmetropolitan areas than in metropolitan areas.[5]

The second change started appearing in the late 1970s. As net in-migration began to decrease in rural areas, the growth rates began to decline and the turnaround seemed to be coming to a close.[6] However, in certain areas, particularly in the Great Lakes states, urban growth rates also continued to decline, staying close to the rural rates.[7]

Just as agricultural rural areas experience high out-migration when economic growth slows and automation occurs, so too do the urban areas whose economies are or were based on labor-intensive heavy manufacturing.

The primary reason for this drop in the urban growth rate was the economic transformation that was occurring in the Midwest.[8] This transformation from a heavy-industry economy to a high tech/service economy, coupled with the willingness of business to relocate, has had a profound effect on the migration patterns in this area.[9]

1. See S. A. Kuznets, A. R. Miller, and R. A. Easterlin, *Population Redistribution and Economic Growth, U.S.: 1870-1950*, vol. 2 (Philadelphia: American Philosophical Society, 1960); M. E. Eldridge and D. Thomas, *Population Redistribution and Economic Growth, United States: 1870-1950*, vol. 3 of *Demographic Analysis and Interrelations* (Philadelphia: American Philosophical Society, 1964).

2. W. C. Roher and L. H. Douglas, *The Agrarian Transition* (New York: Bobbs-Merrill, 1969); J. L. Shover, *First Majority, Last Minority: The Transformation of Rural Life in America* (Dekalb, Ill.: Northern Illinois University Press, 1976); G. K. Zipf, "The P_1P_2/D Hypothesis: On the Intercity Movement of Persons," *American Sociological Review* 11 (1946): 677-86.

3. See G. V. Fuguitt, P. R. Voss, and J. C. Doherty, *Growth and Change in Rural America* (Washington, D.C.: The Urban Land Institute, 1979).

4. K. M. Johnson and R. L. Purdy, "Recent Nonmetropolitan Population Change in Fifty Year Perspective," *Demography* 17, no. 1 (1980): 57-70; J. Kim, "Factors Affecting Urban-to-Rural Migration," *Growth and Change* 14, no. 3 (1983): 38-43.

5. C. L. Beale, *The Revival of Population Growth in Non-Metropolitan America* (Washington, D.C.: Economic Research Service, U. S. Department of Agriculture, 1975); C. L. Beale, "The Recent Shift of U.S. Population to Non-Metropolitan Areas, 1970-1975," *International Regional Science Review* 2 (Winter 1977): 113-22.

6. K. Richter, "Nonmetropolitan Growth in the 1970s: The End of the Turnaround?" *Demography* 22, no. 2 (1985): 245-63.

7. U.S. Department of Commerce, Bureau of the Census, "Local Population Estimates: Indiana 1981-1982," *Current Population Reports*, Series P-26 no. 82-14-C, 1984, and "Local Population Estimates: Indiana 1981-1983," *Current Population Reports*, Series P-26 no. 83-14-C, 1985.

8. S. A. Hoenack, J. A. Peris, and W. C. Weiler, "Can Economic Incentives Explain the Recent Population Movements to Nonmetropolitan Areas?" *Annals of Regional Science* 18, no. 3 (1984): 81-93.

9. See Richter (note 6); J. N. McKibben, "Generalization of Pittenger's Migration Typologies: Implications for Sub-National Forecasts," Paper presented at the Annual Meeting of the Population Association of America, Boston, 1985.

Thus, just as agricultural rural areas experience high out-migration when economic growth slows and automation occurs, so too do the urban areas whose economies are or were based on labor-intensive heavy manufacturing.

This study compares the migration rates in Indiana counties from 1975 to 1983. Indiana was chosen because its economy is based on both agriculture and heavy industry and its migration patterns are similar to those in other Great Lakes states. Furthermore, the rural turnaround in most of Indiana was not as extensive as it was in many other rural areas of the country.[10]

In addition to comparing the rates and flows of migration, this study also compares the migration status of the counties. While a county may experience net in-migration during both time periods, the change in the status of migration may be favorable (higher in-migration) or unfavorable (lower in-migration). The process is the same in comparing counties with net out-migration during both time periods. This measurement assists in establishing the relative trends in the migration magnitude and flow and gives an accurate indication of recent changes in urban/rural migration patterns.

Finally, this study will empirically test the hypothesis that the migration flows in urban manufacturing areas are now similar to those in rural areas. This hypothesis is derived from a theory that migration patterns are determined by economic factors rather than geographic factors such as an urban-rural dichotomy.

Methods and Data

Using the Ratio-Correlation method of estimating population in conjunction with the demographic balancing equation, migration directions and rates for the 92 counties of Indiana were estimated for the period 1980-1983.[11] The 1980-1985 net migration rates were extrapolated from the average net migration rates for the years 1980-1983. The results were compared with those reported by the U.S. Bureau of the Census in the Report on Gross Migration from 1975-1980 by urban-rural classifications.[12]

According to the Census Bureau, an urban county is defined as being a part of a Primary Metropolitan Statistical Area. Included in this study were all counties (four in number) that contained a city with a population greater than 30,000. The economic characteristics of these four areas have more in common with urban than with rural counties (for example, a high percentage of people working in industry, large institutionalized populations). The balance of the counties are designated rural. Thus defined, Indiana has 34 urban and 58 rural counties.

Results

Table 1 shows that, during the years 1975-1980, 32 of 58 (55.2%) rural counties experienced net out-migration, and 16 of 34 (47.1%) urban counties experienced net out-migration.

These findings show that, even during the rural turnaround in Indiana, a greater proportion of urban counties experienced net in-migration than did rural counties. Furthermore, the "rural renaissance" was not so prevalent in Indiana as it was in other parts of the country.[13]

Table 2 shows that 41 (70.7%) of the rural counties had net out-migration for the period 1980-1983, while 24 (70.6%) of the urban counties had net out-migration.

Although the proportion of counties experiencing net out-migration increased in both classifications, the percentages are almost identical. From these data one might conclude that both the urban and rural counties experienced the same migration patterns; however, this is not exactly the case.

Table 3 indicates that, between 1980 and 1983, 18 of 58 (31%) rural counties had an improved migration status (less net out-migration, more net in-migration, or a shift from net out- to net in-migration). Only two urban counties (5.8%) showed an improvement in their migration status.

Table 1
Migration Flow
by County Classification, 1975-1980

	Rural	*Urban*
Net out-migration	32 (55.2%)	16 (47.1%)
Net in-migration	26 (44.8%)	18 (52.9%)
Total	**58**	**34**

Table 2
Migration Flow
by County Classification, 1980-1983

	Rural	*Urban*
Net out-migration	41 (70.7%)	24 (70.6%)
Net in-migration	12 (20.7%)	9 (26.5%)
<50 Migrants	5 (8.6%)	1 (2.9%)
Total	**58**	**34**

Table 3
Change in Migration Status
by County Classification,
(1975-1980) to (1980-1983)

	Rural	*Urban*
Improved	18 (31.0%)	2 (5.8%)
Declined	38 (65.5%)	31 (91.2%)
No Change	2 (3.5%)	1 (3.0%)
Total	**58**	**34**

10. Compare, for example, D. Adamchak, G. Foster, and D. Gill, "Population Turnaround in Kansas: The Nonmetropolitan-Adjacency Effect?" *Social Science Journal* 20, no. 2 (1983): 17-28.

11. *Current Population Reports*, 1984, 1985 (note 7).

12. U.S. Department of Commerce, Bureau of the Census, *Gross Migration for Counties: 1975-1980* (Washington, D.C.: GPO, 1984).

13. See R. Calhoun, *Indiana Population 1980-1984* (Indianapolis: Indiana State Board of Health, 1986).

Table 4
Migration Volumes & Rates, 1975-1980 & 1980-1983

County	Class	Migration 1975-80	Percent Change	Migration 1980-83	Percent Change	Status Change	County	Class	Migration 1975-80	Percent Change	Migration 1980-83	Percent Change	Status Change
Adams	R	– 336	– 0.1	– 1,200	– 4.0	–	Lawrence	R	458	1.2	– 1,700	– 4.0	–
Allen	U	– 8,402	– 3.1	– 14,200	– 4.8	–	Madison	R	– 1,732	– 1.4	– 7,400	– 5.3	–
Bartholomew	U	– 831	– 1.4	– 1,900	– 2.9	–	Marion	U	– 39,694	– 5.6	– 14,000	– 1.8	+
Benton	R	– 909	– 9.3	– 300	– 3.4	+	Marshall	R	– 994	– 2.8	0	0.0	+
Blackford	R	– 811	– 5.6	– 500	– 3.4	+	Martin	R	– 946	– 9.0	– 500	– 4.3	+
Boone	U	2,008	6.6	800	2.3	–	Miami	R	– 1,148	– 3.2	– 3,500	– 8.7	–
Brown	R	1,034	10.1	– 200	– 1.4	–	Monroe	U	8,013	9.7	400	0.4	–
Carroll	R	1,011	6.1	– 400	– 1.8	–	Montgomery	R	– 1,313	– 4.0	– 300	– 0.8	+
Cass	R	– 716	– 2.0	– 1,600	– 4.0	–	Morgan	U	2,346	5.3	– 300	– 0.6	–
Clark	U	1,532	2.0	– 1,000	– 1.1	–	Newton	R	784	6.4	– 300	– 2.3	–
Clay	U	76	0.4	– 800	– 3.0	–	Noble	R	56	0.2	– 900	– 2.7	–
Clinton	R	– 1,214	– 4.3	100	0.2	+	Ohio	R	411	10.0	0	0.0	–
Crawford	R	70	0.1	– 300	– 2.9	–	Orange	R	217	1.3	– 200	– 0.8	–
Daviess	R	– 666	– 2.7	800	2.9	+	Owen	R	1,240	9.6	200	1.9	–
Dearborn	U	1,378	4.8	900	2.7	–	Parke	R	– 624	– 4.1	300	1.6	+
Decatur	R	214	1.0	– 300	– 1.4	–	Perry	R	– 417	– 2.4	– 400	– 2.3	–
DeKalb	U	– 211	– 0.7	– 1,600	– 4.6	–	Pike	R	9	0.1	– 300	– 2.2	–
Delaware	U	– 2,209	– 1.9	– 6,200	– 4.8	–	Porter	U	12,374	13.0	0	0.0	–
Dubois	R	– 165	– 0.5	– 300	– 0.8	–	Posey	U	859	3.8	– 500	– 1.8	–
Elkhart	U	382	0.3	– 2,700	– 2.0	–	Pulaski	R	– 654	– 5.4	– 100	– 1.0	+
Fayette	R	– 783	– 3.1	– 700	– 2.5	–	Putnam	R	1,211	4.8	600	2.2	–
Floyd	U	– 34	– 0.1	400	0.7	+	Randolph	R	– 860	– 3.2	– 1,900	– 6.3	–
Fountain	R	– 462	– 2.7	– 300	– 1.7	none	Ripley	R	– 1,634	– 7.1	0	0.0	+
Franklin	R	124	0.7	600	3.0	+	Rush	R	– 679	– 3.8	– 900	– 4.4	–
Fulton	R	15	0.1	– 700	– 3.5	–	St. Joseph	U	– 5,172	– 2.4	– 7,100	– 3.0	–
Gibson	R	368	1.3	500	1.4	+	Scott	R	– 136	– 0.7	– 400	– 1.9	–
Grant	U	– 3,651	– 4.9	– 3,800	– 4.7	+	Shelby	U	62	0.2	– 400	– 0.9	–
Greene	R	65	0.2	– 100	– 0.3	–	Spencer	R	393	2.3	900	4.7	+
Hamilton	U	13,119	21.2	1,800	2.1	–	Starke	R	318	1.7	– 1,300	– 5.8	–
Hancock	U	1,879	5.0	– 800	– 1.9	–	Steuben	R	1,539	7.5	– 600	– 2.3	–
Harrison	U	1,973	8.9	300	1.2	–	Sullivan	R	– 608	3.2	– 200	– 0.9	+
Hendricks	U	5,459	9.5	600	0.8	–	Switzerland	R	89	1.4	200	3.1	+
Henry	R	– 1,652	– 3.4	– 3,100	– 5.9	–	Tippecanoe	U	9,080	9.0	– 600	– 0.5	–
Howard	U	– 5,886	– 7.1	– 4,000	– 4.6	–	Tipton	U	– 1,306	– 8.1	– 1,300	– 7.5	–
Huntington	R	– 350	– 1.1	– 2,200	– 6.1	–	Union	R	– 103	– 1.7	– 200	– 2.8	–
Jackson	R	– 933	– 2.8	300	0.9	+	Vanderburgh	U	– 3,776	– 2.5	– 2,500	– 1.5	none
Jasper	R	2,760	13.6	– 200	– 0.8	–	Vermillion	R	416	2.7	– 200	– 1.3	–
Jay	R	– 1,835	– 8.3	– 1,700	– 7.4	–	Vigo	U	1,700	1.7	– 2,800	– 2.5	–
Jefferson	R	1,606	6.3	0	0.0	–	Wabash	R	– 107	– 0.3	– 2,100	– 5.8	–
Jennings	R	814	4.2	– 700	– 2.9	–	Warren	R	– 169	– 2.1	0	0.0	+
Johnson	U	4,757	7.4	1,100	1.5	–	Warrick	U	3,588	10.6	1,600	4.0	–
Knox	R	– 94	– 0.3	700	1.7	+	Washington	R	– 83	– 0.4	– 300	– 1.3	–
Kosciusko	R	474	0.9	– 1,300	– 2.2	–	Wayne	U	– 3,483	– 5.5	– 3,100	– 4.1	–
Lagrange	R	461	2.1	100	0.3	–	Wells	R	– 402	– 1.8	– 1,000	– 4.0	–
Lake	U	– 38,238	– 7.7	– 31,900	– 6.1	–	White	R	– 608	– 2.8	– 600	– 2.4	none
LaPorte	U	– 524	– 0.5	– 3,300	– 3.1	–	Whitley	R	– 157	– 0.7	– 400	– 1.7	–

Although a high proportion of both types of counties experienced net out-migration, the magnitude of the migration seemed to deteriorate in urban counties and the variance in the rural rates seemed to decrease (see **Table 4**).

What Does It Mean?

Improved Status for Rural Counties. Although most rural counties in Indiana experienced net out-migration, their migration status improved, particularly in the southern part of the state where agriculture is less prevalent than in the north and central areas.

Although the agriculturally-based rural counties might continue to have net out-migration because family farms are being consolidated into large agribusiness farms, the remaining rural counties should continue to slowly improve their migration status.

Although the agriculturally-based rural counties might continue to have net out-migration because family farms are being consolidated into large agribusiness farms, the remaining rural counties should continue to slowly improve their migration status. The southern rural counties have started to develop tourist-based service industries, which brightens the prospects for favorable migration status in the near future.

*The urban counties changed from **receiving** to **sending** areas. Virtually all urban counties experienced a decline in migration status. Two exceptions were Marion and Floyd Counties.*

Declining Status for Urban Counties. The urban counties, on the other hand, changed from *receiving* to *sending* areas. Virtually all urban counties experienced a decline in migration status. Two exceptions were Marion County, site of the state capital and a large service economy, and Floyd County, which receives a spillover of suburban growth from across the Ohio River (the Louisville area).

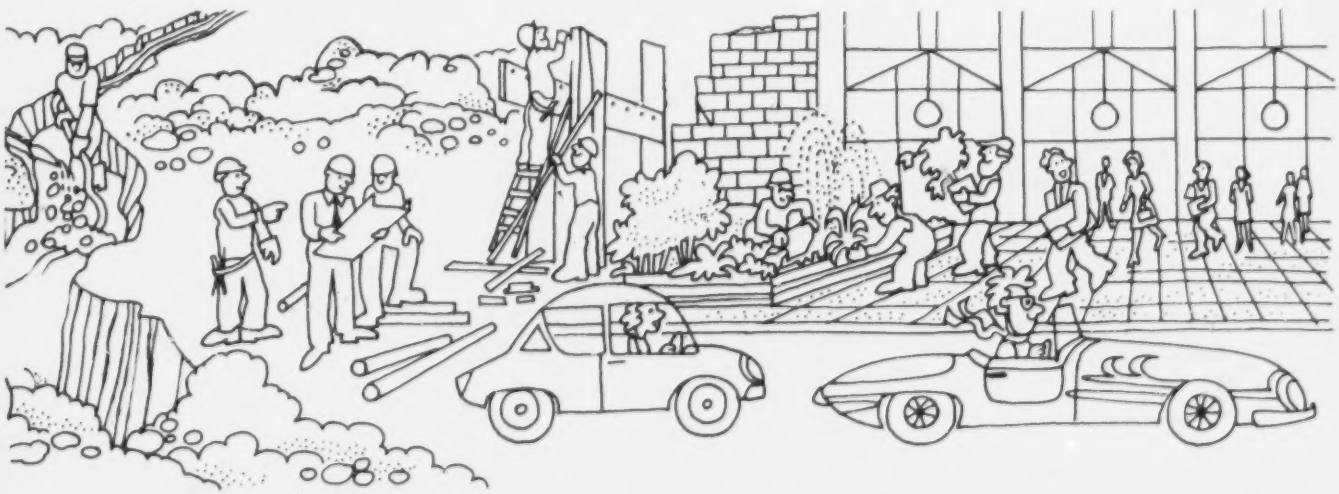
There is strong evidence that the migration status of the urban counties will continue to decline, however, particularly in those areas that depend on heavy and medium manufacturing for their economic base. With the continued rapid rate of industry automation and the tendency for such industry to move away from the Great Lakes region, continuing net out-migration for Indiana's urban counties appears certain.

Regional Dichotomy Replacing Rural/Urban Distribution? Other studies have suggested that the migration flow out of rural areas in Indiana has remained fairly stable for almost 100 years.[14] However, recent data for Indiana indicate that the level of rural out-migration has slowed. But more people are moving out of urban counties than are moving into them. The recipients of this migration flow seem to be high-growth areas outside of the state, and the dichotomy between these regions of the country is replacing the urban-rural distinction as a primary model and determinant of migration flow.

There is strong evidence that the migration status of the urban counties will continue to decline, particularly in those areas that depend on heavy and medium manufacturing for their economic base.

Perhaps in the future, instead of looking at migration flows in terms of rural to urban or agricultural to industrial, the distinction will be nonservice to service economy, north to south, or north to west. In the case of Indiana, the current migration flows indicate that urban and rural counties have more in common than previously thought. □

14. See, for example, Kuznets (note 1), Eldridge/Thomas (note 1), and Johnson/Purdy (note 4).



Hoosiers on the Move

Mark Smith and Bob J. Lain

***Mark Smith** is a research assistant and **Bob Lain** a research associate for the Indiana Business Research Center.*

The population of the United States is in a continuous state of flux. Indiana is not immune from this condition, and the mobility of its population exerts a powerful influence on the state's economy. Based on a sample of individual federal tax returns, 102,316 people migrated to the state during 1984, while out-migration amounted to 131,652.[1] Among the 50 states plus the District of Columbia, Indiana ranked twentieth in terms of in-migration and fourteenth in terms of out-migration. During this time, Indiana held the dubious distinction of being the country's seventh largest supplier of citizens to other states.

Forty-two percent of the in-migration experienced by Indiana during 1984 can be attributed to the neighboring states of Illinois, Ohio, Kentucky, and Michigan. Texas, Florida, and California provided an additional 18%. These same seven states attracted 57% of the state's out-migration.

An examination of **Table 1** reveals that 42% of the in-migration experienced by Indiana during 1984 can be attributed to the neighboring states of Illinois, Ohio, Kentucky, and Michigan. Texas, Florida, and California provided an additional 18%. These same seven states attracted 57% of the state's out-migration. Florida received the largest number of Hoosiers, followed by Illinois, Ohio, Texas, Michigan, Kentucky, and California. Only 42,502 (or 32%) of those people who left Indiana during this time remained in the Midwest.[2]

The net migration (the difference between in-migration and out-migration) experienced by the state during 1984 totaled -29,336. Thus, while the state's population exhibited a natural increase of 32,755 over this period, almost 90% of this increase was needed to compensate for the decline caused by out-migration. An examination of Indiana's relationships with other states shows that the state gained more people than it lost in only eight cases, for a total of 4,095 (see **Figure 1**). Of those, 71% came from Illinois and Kentucky, while Ohio, Iowa, West Virginia, North Dakota, Wyoming, and Utah accounted for the remainder. Only in relation to Montana did Indiana gain the same number of people that it lost.

By summing the absolute values of the net migrations contained in Table 1, we see that a total of 37,526 people were involved in net interstate movement between Indiana and other states. Florida accounted for

1. Source: Unpublished data from U.S. Internal Revenue Service, State to State Flow of Exemptions, 1984-1985. Migration between Indiana and areas outside the U.S. is not considered in this article.

2. For purposes of this discussion, the twelve Midwestern states are Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.

Table 1
Sources and Destinations of
Indiana's Population Migration
1984-1985

State or District	*Into Indiana*	*Out of Indiana*	*Net Migration*	*State or District*	*Into Indiana*	*Out of Indiana*	*Net Migration*
Total	**102,316**	**131,652**	**(29,336)**				
Alabama	1,152	1,722	(570)	Montana	189	189	0
Alaska	277	326	(49)	Nebraska	484	549	(65)
Arizona	1,541	3,672	(2,131)	Nevada	336	658	(322)
Arkansas	924	1,297	(373)	New Hampshire	151	338	(187)
California	5,026	8,014	(2,988)	New Jersey	945	1,200	(255)
Colorado	1,655	2,247	(592)	New Mexico	502	623	(121)
Connecticut	615	916	(301)	New York	1,822	1,988	(166)
Delaware	107	183	(76)	North Carolina	1,967	3,425	(1,458)
D.C.	84	139	(55)	North Dakota	266	180	86
Florida	6,719	17,009	(10,290)	Ohio	11,034	10,623	411
Georgia	1,907	4,213	(2,306)	Oklahoma	1,585	2,179	(594)
Hawaii	466	552	(86)	Oregon	372	484	(112)
Idaho	190	257	(67)	Pennsylvania	2,481	2,640	(159)
Illinois	14,833	13,157	1,676	Rhode Island	92	148	(56)
Iowa	1,434	1,063	371	South Carolina	954	1,544	(590)
Kansas	1,129	1,329	(200)	South Dakota	196	255	(59)
Kentucky	9,274	8,028	1,246	Tennessee	3,068	4,562	(1,494)
Louisiana	1,206	1,797	(591)	Texas	7,072	9,815	(2,743)
Maine	194	280	(86)	Utah	402	362	40
Maryland	740	1,192	(452)	Vermont	104	124	(20)
Massachusetts	633	1,008	(375)	Virginia	2,068	3,002	(934)
Michigan	8,058	8,121	(63)	Washington	1,004	1,182	(178)
Minnesota	1,210	1,730	(520)	West Virginia	755	531	224
Mississippi	707	1,040	(333)	Wisconsin	1,826	2,039	(213)
Missouri	2,255	3,456	(1,201)	Wyoming	305	264	41

Source: U.S. Internal Revenue Service, State to State Flows of Exemptions 1984-1985, Unpublished data

28% of this number, while California, Arizona, Texas, and Georgia accounted for an additional 27%.

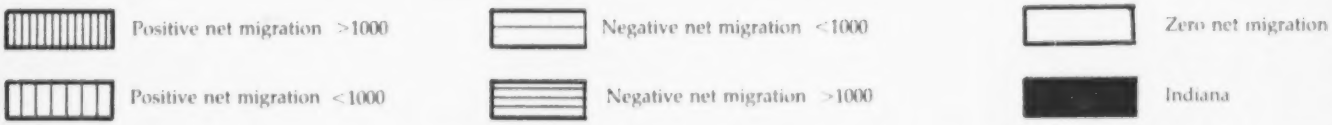
Indiana versus the Midwest

A high degree of correlation exists between the size of a state's population and the number of persons entering and leaving the state. Therefore, those measures of migratory activities that account for differences in population sizes provide more meaningful points of comparison. The ratio of in-migration to out-migration is an appropriate measure of migratory activities in this regard. **Table 2** shows these ratios.

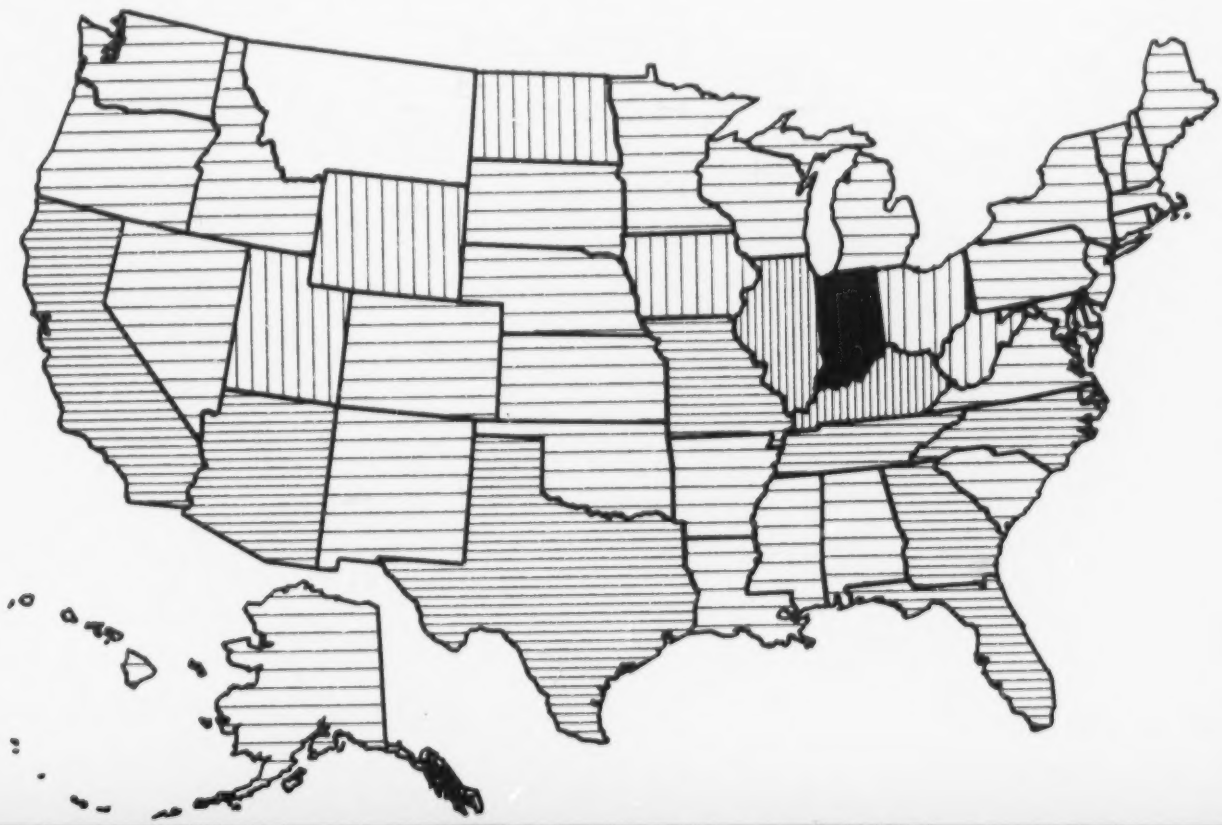
The average state in the Midwest gained 77 persons for every 100 it lost. Indiana, with a ratio of .78, ranked fifth among the Midwestern states.

The average state in the Midwest gained 77 persons for every 100 it lost. Only the southernmost Midwestern state, Missouri, even approached migratory parity, with an in-migration to out-migration ratio of .97. Indiana, with a ratio of .78, ranked fifth among the Midwestern states. While Indiana's ratio was not significantly different from the mean for the Midwest, it was above the corresponding ratios for Illinois, Michigan, and Ohio. However, Indiana was below Kentucky, which had a ratio of .83.

Figure 1
Sources and Distribution of Indiana's Net Population Migration, 1984-1985



A positive net migration means that more people moved from a given state to Indiana than moved from Indiana to that state. A negative net migration means that more people moved from Indiana to a given state than moved from that state to Indiana.



Turnover

Another concept which is useful for gaining an insight into the relative position of Indiana is turnover. Turnover can be defined as the ratio of a state's total migrations to its stable population base. This ratio, when multiplied by 100, yields a percentage of the total migratory activity experienced by a state relative to the static portion of its population. To the extent that certain industries benefit from migration, turnover is a measure of a state's potential for some types of economic activity. Such industries include the real estate markets and firms involved in commercial moving or the leasing of vehicles for the purpose of moving households. **Table 3** shows the turnover rate by state, as calculated by the following equation x 100:

$$\text{Turnover} = \frac{\text{In-Migrants} + \text{Out-Migrants}}{\text{1985 Population} - \text{In-Migrants}}$$

When ranked according to turnover, Indiana fell to seventh among the Midwestern states and forty-fifth among all states. Indiana's turnover rate of approximately 5.1% was below the mean turnover rate for the Midwestern states of 5.7% and well below the national average of 7.6%. Once again, Indiana was above Illinois, Michigan, and Ohio but below Kentucky. Among Midwestern states, Kansas, with a turnover rate of 8.7%, sustained the highest level of change relative to its static population.

Table 2
Individual State Migration Patterns
1984-85

State or District	*In Migration*	*Out Migration*	*Net Migration*	*In/Out Ratio*
Missouri	118,614	121,865	(3,251)	0.97
Minnesota	75,054	84,108	(9,054)	0.89
Kansas	78,176	89,665	(11,489)	0.87
South Dakota	20,321	24,685	(4,364)	0.82
INDIANA	**102,316**	**131,652**	**(29,336)**	**0.78**
Nebraska	39,712	52,245	(12,533)	0.76
Michigan	121,370	161,044	(39,674)	0.75
Wisconsin	64,770	87,680	(22,910)	0.74
Ohio	153,929	216,446	(62,517)	0.71
North Dakota	18,781	27,168	(8,387)	0.69
Illinois	170,747	252,429	(81,682)	0.68
Iowa	47,085	80,778	(33,693)	0.58
MIDWEST TOTAL	**1,010,875**	**1,329,765**	**(318,890)**	**0.76**
MIDWEST MEAN	**84,240**	**110,814**	**(26,574)**	**0.77**
Florida	477,179	277,532	199,647	1.72
Arizona	172,646	113,585	59,061	1.52
Georgia	198,499	137,648	60,851	1.44
New Hampshire	50,127	36,194	13,933	1.38
North Carolina	180,050	142,303	37,747	1.27
California	487,621	396,033	91,588	1.23
Nevada	57,798	48,484	9,314	1.19
Alaska	39,838	34,326	5,512	1.16
Texas	405,792	351,216	54,576	1.16
Virginia	204,612	181,163	23,449	1.13
South Carolina	97,229	86,652	10,577	1.12
Washington	133,942	119,845	14,097	1.12
Delaware	20,581	18,585	1,996	1.11
Maryland	128,160	117,627	10,533	1.09
Vermont	17,074	15,673	1,401	1.09
New Mexico	65,816	61,232	4,584	1.07
Maine	29,685	27,723	1,962	1.07
Tennessee	122,554	116,281	6,273	1.05
Arkansas	67,198	64,424	2,774	1.04
Colorado	140,766	135,491	5,275	1.04
Alabama	90,297	86,962	3,335	1.04
Rhode Island	22,468	22,604	(136)	0.99
New Jersey	156,865	161,270	(4,405)	0.97
Connecticut	75,621	80,550	(4,929)	0.94
Massachusetts	106,414	114,000	(7,586)	0.93
Oregon	72,446	77,620	(5,174)	0.93
Mississippi	58,991	64,947	(5,956)	0.91
Hawaii	46,067	51,252	(5,185)	0.90
Idaho	37,267	43,564	(6,297)	0.86
Utah	47,199	55,596	(8,397)	0.85
Kentucky	75,415	90,535	(15,120)	0.83
Montana	25,184	30,327	(5,143)	0.83
D.C.	31,907	39,327	(7,420)	0.81
Louisiana	83,566	104,532	(20,966)	0.80
Oklahoma	87,847	112,535	(24,688)	0.78
Wyoming	25,127	33,019	(7,892)	0.76
Pennsylvania	149,630	201,160	(51,530)	0.74
West Virginia	31,072	46,342	(15,270)	0.67
New York	192,711	296,212	(103,501)	0.65
U.S. less the Midwest	**4,513,261**	**4,194,371**	**318,890**	**1.08**

Note: The In/Out ratio (x100) indicates the number of people entering the state for every 100 people leaving the state.

Source: U.S. Internal Revenue Service, State to State Flows of Exemptions 1984-1985, Unpublished data.

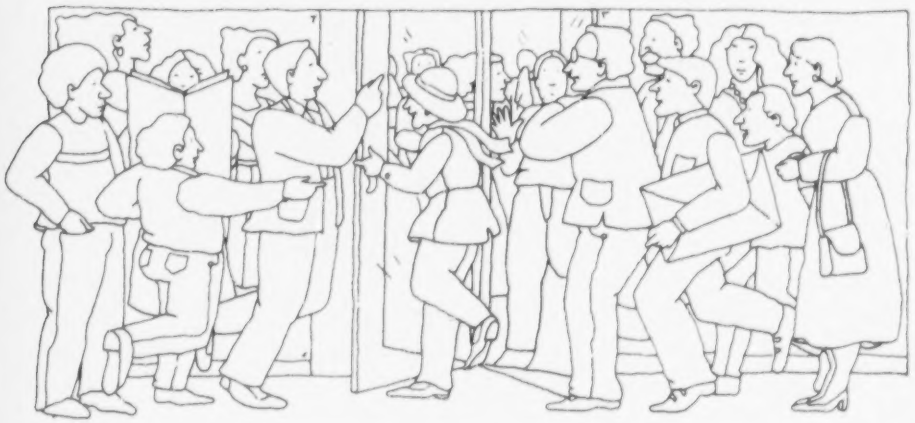


Table 3
Population Turnover by State
1984-85

Midwestern States	*Turnover*	*State or District*	*Turnover*
Kansas	8.68	Oklahoma	8.34
North Dakota	8.01	Utah	7.93
South Dakota	7.79	Delaware	7.76
Nebraska	6.78	Vermont	7.76
Missouri	5.97	Arkansas	7.56
Iowa	5.32	Oregon	7.46
INDIANA	**5.13**	Georgia	7.45
Minnesota	4.54	Washington	7.40
Illinois	4.50	South Carolina	7.25
Ohio	4.19	Maryland	6.85
Michigan	3.92	North Carolina	6.54
Wisconsin	3.80	Tennessee	6.45
TURNOVER FOR ALL MIDWESTERN STATES	**4.84**	Mississippi	6.42
MIDWEST MEAN	**5.72**	Texas	6.11
Alaska	19.48	Maine	6.07
D.C.	16.15	Kentucky	6.06
Nevada	15.03	Alabama	5.87
Wyoming	14.13	Rhode Island	5.82
Arizona	12.37	Connecticut	5.77
Hawaii	12.06	Louisiana	5.56
New Mexico	11.56	West Virginia	5.48
Colorado	11.08	New Jersey	5.09
Idaho	10.43	Massachusetts	4.61
New Hampshire	10.37	California	4.48
Florida	9.16	Pennsylvania	3.69
Virginia	8.60	New York	3.57
Montana	8.48	**U.S. Average**	**7.66**

Source: Developed by IBRC from unpublished data, U.S. Internal Revenue Service, State to State Flows of Exemptions 1984-1985.

Indiana and the Midwest versus the U.S.

The dynamic growth of the Sunbelt states has radically changed the face of the South while at the same time taking a tremendous toll on the rest of the nation. The Midwest has been especially hard hit. During 1984, only New York and Pennsylvania, the two northeastern giants, had net migration patterns worse than that of the Midwest, where the average net loss was approximately 27,000. The 12 Midwestern states accounted for 40% of those states that experienced a negative net migration. More than half of the total number of persons leaving those states with negative net migrations left the states of the Midwest.

When all of the states are ranked according to their in/out ratios, six of the bottom ten lie in the Midwest. Indiana, which ranks twelfth from the bottom, barely escapes this list. When the comparison is made using turnover ratios, the Midwest fares only slightly better. Midwestern states account for five of the bottom ten. Again, Indiana escapes this list, this time placing eleventh. The bright spot from a Midwestern standpoint is that Kansas, North Dakota, and South Dakota all ranked above the national average. It is interesting to note that the six Midwestern states with the highest turnover ratios all lie west of the Mississippi River.

When all of the states are ranked according to their in/out ratios, six of the bottom ten lie in the Midwest.

The picture painted by these population statistics is clear. During 1984, Indiana lost people in large numbers in both gross and relative terms. The state's natural population growth was substantially offset by out-migration. A large number of working-age individuals almost certainly were among those moving out of state. To the extent that this is the case, the state's tax base is being eroded by net out-migration. Furthermore, a low turnover rate implies a drag on potential economic activity for certain service industries. □

Tracking Indiana Population Projections

Morton J. Marcus and Michael A. Gann

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When the U.S. Bureau of the Census in early July released the 1985 county population estimates for Indiana, it was possible to see how the 1983 County Population Projections are doing. The Census Bureau estimates a total 1985 population for Indiana of 5,499,100, which is 68,800 ***below*** the projections issued by the State Board of Health and the Indiana Business Research Center in 1983. The projected numbers are therefore 1.25% greater than the 1985 estimates of population (see **Table 1**).

This article will offer little speculation about the causes of the difference between the projections and the estimates. It would be easy to claim that the difference is a result of heavier than anticipated out-migration from the state and that this flow resulted from the severe economic conditions of the early years in the decade. Yet, until we have a chance to study the birth, death, and migration data in some detail, that judgment may be an oversimplification.

Instead, this article will examine the differences and the changing patterns of growth, county by county, between the 1970s and the 1980s to date.

The State

As noted, Indiana's population is growing less rapidly than projected in 1983. During the 1970s, the state grew at an average rate of 0.56% per year. In the first five years of this decade, that pace had slowed to a negligible 0.03% annual rate. Where the state added 29,700 persons annually during the 1970s, it has added only 1,800 persons per year thus far in the 1980s. Halfway through this decade, the state is growing at only 6% of the rate of the 1970s. The projections had anticipated an annual growth of 0.28%, or 15,535 persons per year. Thus, the 1983 projections were correct in indicating a sharp slowdown in growth, but they failed to capture the full magnitude of the decline.

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Changing County Patterns

Still the leaders. Just as the state's rate of growth has declined during the past five

Table 1
Indiana Population 1970-1985
and Average Annual Increase and Growth Rates

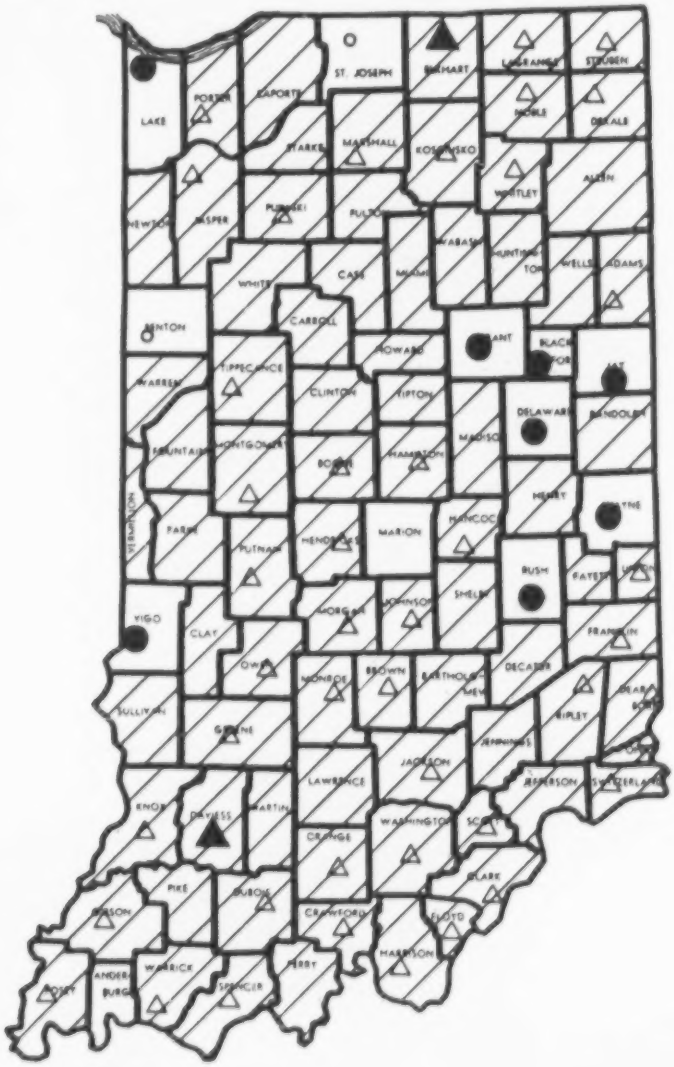
	1970 Census	*1980 Census*	*1985 Estimate*	*1985 Projection*
Number of persons	5,193,669	5,490,224	5,499,100	5,567,900

	1970-80	*1980-85 Estimates*	*1980-85 Projections*
Average annual increase	29,655	1,775	15,535
Average annual growth rate	0.56%	0.03%	0.28%

Table 2
Population of Indiana Counties, 1970-1985

County	1970 Census	1980 Census	1985 Estimate	Average Annual Percent Change 1970-80	Average Annual Percent Change 1980-85	County	1970 Census	1980 Census	1985 Estimate	Average Annual Percent Change 1970-80	Average Annual Percent Change 1980-85
Adams	26,871	29,619	30,222	0.98	0.40	Madison	138,451	139,336	132,948	0.06	-0.93
Allen	280,455	294,335	290,911	0.48	-0.23	Marion	793,590	765,233	779,966	-0.36	0.38
Bartholomew	57,022	65,088	64,952	1.33	-0.04	Marshall	34,986	39,155	40,981	1.13	0.92
Benton	11,262	10,218	9,949	-0.97	-0.53	Martin	10,969	11,001	10,979	0.03	-0.04
Blackford	15,888	15,570	15,144	-0.20	-0.55	Miami	39,246	39,820	37,662	0.15	-1.11
Boone	30,870	36,446	38,127	1.67	0.91	Monroe	84,849	98,785	101,446	1.53	0.53
Brown	9,057	12,377	12,586	3.17	0.34	Montgomery	33,930	35,501	35,605	0.45	0.06
Carroll	17,734	19,722	19,303	1.07	-0.43	Morgan	44,176	51,999	54,352	1.64	0.89
Cass	40,456	40,936	40,081	0.12	-0.42	Newton	11,606	14,844	14,103	2.49	-1.02
Clark	75,876	88,838	89,768	1.59	0.21	Noble	31,382	35,443	36,851	1.22	0.78
Clay	23,933	24,862	24,784	0.38	-0.06	Ohio	4,289	5,114	5,394	1.77	1.07
Clinton	30,547	31,545	31,311	0.32	-0.15	Orange	16,968	18,677	18,953	0.96	0.29
Crawford	8,033	9,820	10,108	2.03	0.58	Owen	12,163	15,841	16,604	2.68	0.95
Daviess	26,602	27,836	28,814	0.45	0.69	Parke	14,600	16,372	16,127	1.15	-0.30
Dearborn	29,430	34,291	36,812	1.54	1.43	Perry	19,075	19,346	19,151	0.14	-0.20
Decatur	22,738	23,841	23,709	0.47	-0.11	Pike	12,281	13,465	13,338	0.92	-0.19
DeKalb	30,837	33,606	33,666	0.86	0.04	Porter	87,114	119,816	123,534	3.24	0.61
Delaware	129,219	128,587	122,353	-0.05	-0.99	Posey	21,740	26,414	26,432	1.97	0.01
Debois	30,934	34,238	35,656	1.02	0.81	Pulaski	12,534	13,258	13,320	0.56	0.09
Elkhart	126,529	137,330	145,235	0.82	1.13	Putnam	26,932	29,163	29,914	0.80	0.51
Fayette	26,216	28,272	27,659	0.76	-0.44	Randolph	28,915	29,997	28,277	0.37	-1.17
Floyd	55,622	61,169	62,903	0.96	0.56	Ripley	21,138	24,398	25,265	1.44	0.70
Fountain	18,257	19,033	18,699	0.42	-0.35	Rush	20,352	19,604	18,802	-0.37	-0.83
Franklin	16,943	19,612	20,404	1.47	0.79	St. Joseph	245,045	241,617	241,034	-0.14	-0.05
Fulton	16,984	19,335	18,933	1.30	-0.42	Scott	17,144	20,422	20,495	1.77	0.07
Gibson	30,444	33,156	33,803	0.86	0.39	Shelby	37,797	39,887	39,727	0.54	-0.08
Grant	83,955	80,934	77,469	-0.37	-0.87	Spencer	17,134	19,361	20,300	1.23	0.95
Greene	26,894	30,416	30,539	1.24	0.08	Starke	19,280	21,997	21,242	1.33	-0.70
Hamilton	54,532	82,027	90,989	4.17	2.10	Steuben	20,159	24,694	25,711	2.05	0.81
Hancock	35,096	43,939	44,376	2.27	0.20	Sullivan	19,889	21,107	20,633	0.60	-0.45
Harrison	20,423	27,276	28,833	2.94	1.12	Switzerland	6,306	7,153	7,250	1.27	0.27
Hendricks	53,974	69,804	73,565	2.61	1.06	Tippecanoe	109,378	121,702	123,788	1.07	0.34
Henry	52,603	53,336	50,325	0.14	-1.16	Tipton	16,650	16,819	16,177	0.10	-0.78
Howard	83,198	86,896	85,317	0.44	-0.37	Union	6,582	6,860	6,899	0.41	0.11
Huntington	34,970	35,596	35,382	0.18	-0.12	Vanderburgh	168,772	167,515	167,562	-0.07	0.01
Jackson	33,187	36,523	37,135	0.96	0.33	Vermillion	16,793	18,229	17,746	0.82	-0.54
Jasper	20,429	26,138	26,567	2.49	0.33	Vigo	114,528	112,385	110,398	-0.19	-0.36
Jay	23,575	23,239	22,105	-0.14	-1.00	Wabash	35,553	36,640	35,050	0.30	-0.88
Jefferson	27,006	30,419	29,689	1.20	-0.48	Warren	8,705	8,976	8,582	0.31	-0.89
Jennings	19,454	22,854	22,767	1.62	-0.08	Warrick	27,972	41,474	45,322	4.02	1.79
Johnson	61,138	77,240	82,046	2.37	1.21	Washington	19,278	21,932	22,246	1.30	0.28
Knox	41,546	41,838	41,967	0.07	0.06	Wayne	79,109	76,058	73,240	-0.39	-0.75
Kosciusko	48,127	59,555	62,545	2.15	0.98	Wells	23,821	25,401	24,205	0.64	-0.96
Lagrange	20,890	25,550	27,535	2.33	1.51	White	20,995	23,867	23,490	1.29	-0.32
Lake	546,253	522,965	498,005	-0.43	-0.97	Whitley	23,395	26,215	26,329	1.14	0.09
LaPorte	105,342	108,632	106,182	0.31	-0.46						
Lawrence	38,038	42,472	42,443	1.11	-0.01	**Indiana**	**5,193,669**	**5,490,224**	**5,499,100**	**0.56**	**0.03**

Figure 1
Comparative Growth Patterns in Indiana Counties, 1970-1980 and 1980-1985



Legend:

1970-1980	1980-1985		1970-1980	1980-1985
Growing	Faster Growth		Declining	Growing
Growing	Slower Growth		Declining	Slower Decline
Growing	Declining		Declining	Faster Decline

years from the rate of the previous decade, so too has that rate slowed for the individual counties (see **Table 2**). For example, Hamilton and Warrick Counties led the state in population growth rates in both the 1970s and thus far in the 1980s, but the rate in each has slowed considerably. Hamilton County has declined from an annual rate of 4.17% to 2.10%, while Warrick has slowed from 4.02% to 1.79%.

The positive six. Only two counties with positive rates of growth in the 1970s saw those rates accelerate during the 1980s. Elkhart and Daviess Counties are these notable exceptions. Marion and Vanderburgh Counties, which had been declining in the 1970s, have experienced positive turnarounds and are now contributing to the state's population growth. In Benton and St. Joseph Counties, the rates of decline slowed; although neither county is growing in population, the rate of decline for each has diminished.

The changing pack. In the 1970s, 80 of Indiana's 92 counties added to their numbers; only 12 counties experienced declines in population. Thus far in the 1980s, only about half (48) are growing; the remaining 44 counties lost population in the period 1980 to 1985 (see **Figure 1**). The five counties with declines of 1% per year or more in the 1980s are Jay, Newton, Miami, Henry, and Randolph. Of these, only Jay County continues a decline begun in the 1970s; the others had all been growing in the 1970s.

In the 1970s, 80 of Indiana's 92 counties added to their numbers. Thus far in the 1980s, only about half (48) are growing.

Of those 80 counties that grew in the 1970s, 46 continue to grow, but 44 of them are growing at slower rates. There are 34 counties that grew in the 1970s, only to experience declines in the 1980s.

Of the 12 counties that were declining in the 1970s, eight have accelerated their declines, while, as noted, two have slowed their declines and two have begun to grow during this decade.